

Eriolaena bacgiangensis (Malvaceae), a new species from Vietnam

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Abstract

The new species *Eriolaena bacgiangensis* from Vietnam is described and illustrated. The identified key was constructed to indicate the differences amongst three allied species of *Eriolaena*. *E. bacgiangensis* was compared with similar species, *E. candollei* and *E. wallichii*. *E. bacgiangensis* differs from *E. candollei* by the length of pedicel (1.4–2.3 cm long vs. 3.0–4.0 cm in *E. candollei*); presence of epicalyx after flowers at anthesis in *E. bacgiangensis* (vs. absence of epicalyx after flowers at anthesis in *E. candollei*); densely fringed epicalyx in *E. bacgiangensis* (vs. sparsely fringed epicalyx in *E. candollei*); style significantly exceeds staminal tube length in *E. bacgiangensis*, while the style is slightly longer than the staminal tube in *E. candollei*; the fruit apex round in *E. bacgiangensis* (vs. pointed and beaked in *E. candollei*). The linear epicalyx lobes are a key diagnostic trait for distinguishing *E. bacgiangensis* from *E. wallichii* (linear vs. ovate in *E. wallichii*). In addition, the other different characteristics of the two species are: leaf blade (not thickly papery in *E. bacgiangensis* vs. thickly papery in *E. wallichii*); length of inflorescences (13.0–18.0 cm in *E. bacgiangensis* vs. ≤ 6.0 cm in *E. wallichii*); shape of flower bud (lanceolate in *E. bacgiangensis* vs. globular in *E. wallichii*); fruit apex (round in *E. bacgiangensis* vs. apex shortly beaked in *E. wallichii*).

Key words: Bac Giang, Dombeyoideae, *Eriolaena*, Vietnam



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Introduction

Eriolaena DC. was established in 1823. This genus is now recognised as a genus in the subfamily Dombeyoideae, family Malvaceae (Colli-Silva et al. 2025). The genus comprises approximately 17 species (Ya et al. 2007), mainly distributed in tropical and subtropical Asia. In Vietnam, one species of *Eriolaena* (*E. candollei*) has been recorded so far (Gagnepain 1910; Nguyen et al. 1980; Pham 1999; Cham-long 2001; Nguyen 2003; Newman et al. 2007; Ya et al. 2007; Chandramohan et al. 2020; POWO 2025). *E. candollei* includes three synonyms such as *E. affinis* Pierre, *E. glabrescens* DC. and *E. kwangsiensis* Hand.-Mazz. (POWO 2025). The species is native to Bangladesh, Cambodia, south-central China, southeast China, East

Himalaya, India, Laos, Myanmar, Thailand and Vietnam (POWO 2025). In 2025, during a botanical survey of Bac Giang Province, Vietnam, specimens of the genus *Eriolaena* were collected from this Province. After comparing with specimens in the Herbaria HN, K, KRIB, P and VNM and consulting the relevant literature, we determined that our specimens represent a new species. Here, we describe and illustrate this new species as *Eriolaena bacgiangensis* T.H.Bui.

Materials and methods

All morphological characters of the new species were observed from living and dried specimens. Material was stored at HN Herbarium of the Institute of Biology in Vietnam. The conservation status of the new species was assessed according to the guidelines of the International Union for Conservation of Nature (IUCN 2025). Other specimens of *Eriolaena* species are studied at HN, KRIB, VNM Herbaria that preserve many specimens of species distributed in Vietnam (acronyms follow Thiers (2025)).

Taxonomy

***Eriolaena bacgiangensis* T.H.Bui, sp. nov.**

[urn:lsid:ipni.org:names:77360921-1](https://nomenclature.ipni.org/names/77360921-1)

Figs 1–3

Type. VIETNAM. • Bac Giang Province, Son Dong District, Huu San Commune, 21°23'26.1"N, 106°57'27.6"E, alt. 178 m, 18 July 2015, *T.B. Tran, D.B. Tran, T.C. Vu, V.H. Do, H.Q. Bui, H.S. Doan*, VK 6489 (holotype: HN80497!; isotypes: HN80498!, HN80499!, HN80500!, VNM00074095!).

Diagnosis. *Eriolaena bacgiangensis* is most similar to *E. candollei* due to the shape of the leaf blade, number of basal and lateral veins, presence of epicalyx in the flower bud, lanceolate epicalyx; shape of sepal (linear–lanceolate) and yellow petals. *E. bacgiangensis* differs from *E. candollei* by the pedicel length (1.4–2.3 cm), presence of epicalyx after flowers at anthesis, densely fringed epicalyx, style significantly exceeds staminal tube length and fruit apex round.

Description. **Small tree** up to 8 m tall; branchlets stellate puberulent. Stipules caducous. Petioles 1.1–6.0 cm long, densely pubescent. **Leaf** blades cordate, 7.0–23 × 3.6–18.0 cm; apex acute to caudate; base shallowly cordate; surfaces pubescent; veins densely pubescent; stellate hairy, denser abaxially; margin obtusely dentate; basal veins 5–7; secondary veins 3–5-paired. **Inflorescence** racemose, axillary to terminal, 3–10-flowered, 13.0–18.0 cm long. Flower pedicels 1.4–2.3 cm long, densely pubescent. **Flower** buds with epicalyx; epicalyx horizontal or pendulous; lanceolate, 1.5–1.6 × 0.6–0.7 cm, densely pubescent. **Epicalyx** present after flowers at anthesis, 1.3–1.5 × 0.2–0.4 cm; epicalyx lobe linear, margin pinnately partite, densely fringed, densely woolly stellate pilose. Calyx and corolla 5-merous. **Sepals** 5, valvate, linear–lanceolate, 2.0–2.9 × 0.47–0.53 cm; abaxially stellate hairy, adaxially villous. **Petals** 5, yellow to orange, oblong-rectangle; petals are turned backwards between the sepals; 1.3–1.5 × 0.6–0.7 cm, broader than sepals; above part glabrous; apex entire to emarginate; narrowed towards the base, claw



Figure 1. *Eriolaena bacgiangensis* T.H.Bui **A** habit **B** flowering, fruiting branch **C** leaves **D** cordate base **E** dentate margin **F** flower bud and flower **G** epicalyx lobes **H–J** flower **K** flower from below **L** staminal tube, style, stigma **M, N** fruit (Photos by T.B. Tran).

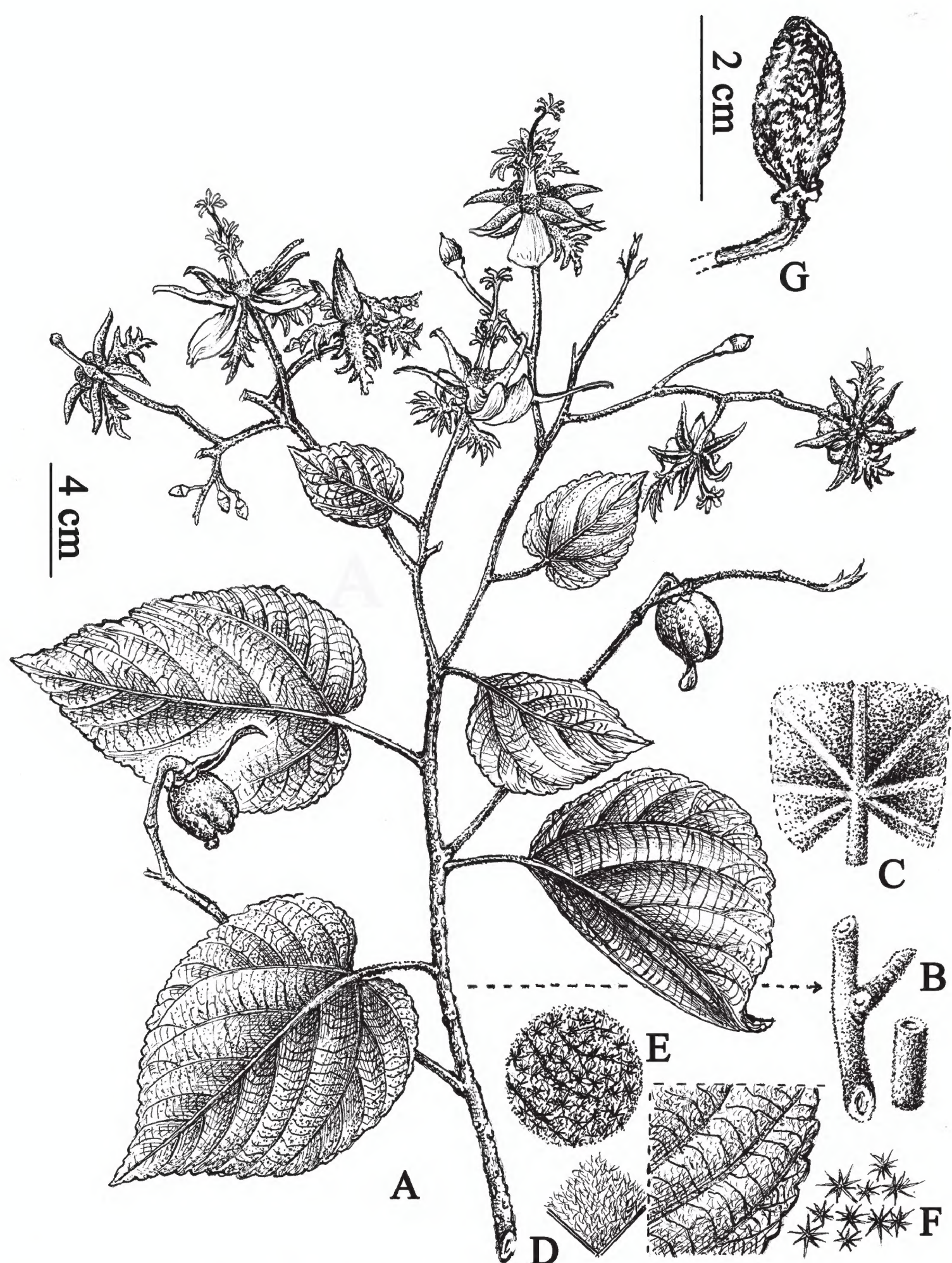


Figure 2. *Eriolaena bacgiangensis* T.H.Bui **A** flowering, fruiting branch **B** pubescent branch **C** pubescent leaf **D–F** stellate hairs on leaves **G** fruit (Drawn by Le Kim Chi).

broad, thick densely pubescent, deflexed between the sepals. **Stamens** many, connate into cylindrical tube; staminal tube covering the ovary and style, 1.1–1.3 cm long; anthers linear-oblong to rectangular, $0.21\text{--}0.31 \times 0.04$ cm, 2-celled, cells parallel. **Ovary** superior, ovate, $0.07\text{--}0.08 \times 0.05\text{--}0.06$ cm, pubescent; style linear, simple, 2.0–2.2 cm long, style significantly exceeds staminal tube length; stigma 5–7-lobed, lobes needle-like, horizontal to down-curved. **Capsules** ovate-elliptic, woody, $2.0\text{--}2.5 \times 1.3\text{--}1.8$ cm, longitudinally grooved, fruit apex round; fruit stalk 3.5–3.7 cm long; densely hairy.

Etymology. The specific epithet refers to the type locality, Bac Giang Province in Vietnam.

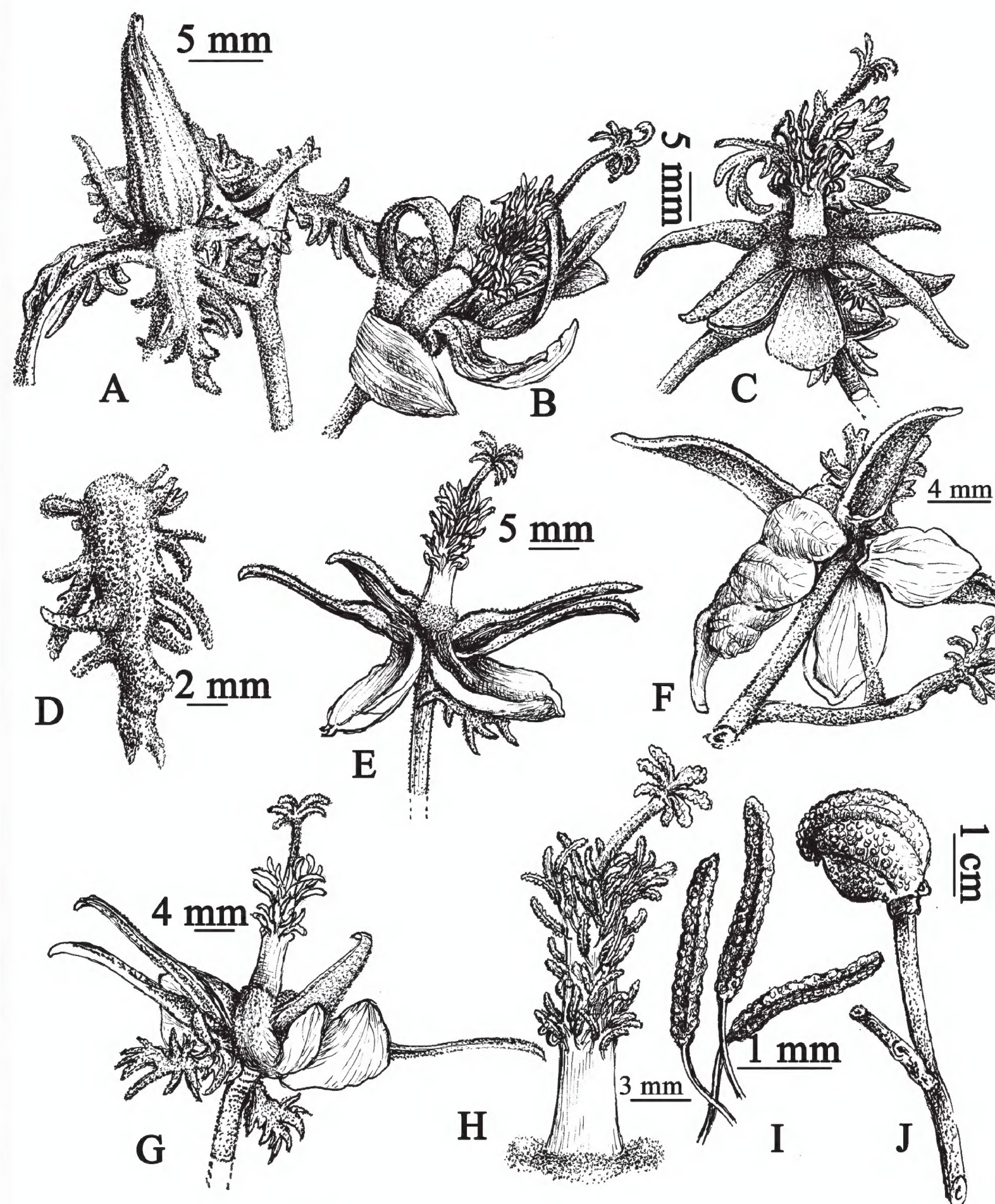


Figure 3. *Eriolaena bacgiangensis* T.H.Bui **A** flower bud **B, C** bloom flower **D** epicalyx lobes **E, G** flower **F** flower from below **H** staminal tube, style, stigma **I** stamens **J** fruit (Drawn by Le Kim Chi).

Distribution and ecology. *E. bacgiangensis* is found only in Vietnam, Bac Giang Province, Son Dong District, Huu San Commune, where it grows in well-lit places in shrubland and dry soil of secondary forest, in association with *Acacia mangium* Willd., *Bidens pilosa* L., *Cayratia trifolia* (L.) Mabb. & J.Wen, *Chromolaena odorata* (L.) R.M.King & H.Rob. and *Stachytarpheta jamaicensis* (L.) Vahl. Flowering and fruiting specimens were collected in July 2015.

Conservation status. Data Deficient (DD) (IUCN 2025). *Eriolaena bacgiangensis* is known only from the type locality. A comprehensive botanical survey of the *Eriolaena* has not been carried out to date. Potential threats from habitat fragmentation for road construction and land-use change for *Acacia* spp. plantations, therefore, require urgent and appropriate plans for ex situ species conservation.

Discussion

Diagnostic characters separating the allied species are listed in Table 1. Based on keys to species of *Eriolaena* mentioned in previous works (Ya et al. 2007; Chandramohan et al. 2020), we determined two species of *Eriolaena* (*E. candollei*, *E. wallichii*) with some similar features to the specimens we collected (branchlets stellate pubescent, stipules caducous, inflorescence axillary or terminal, pedicel with stellate hairy, flower bud with epicalyx, sepals 5, sepal linear–lanceolate, petals 5, fruit pubescent).

Two easily recognisable features of the epicalyx which we used to distinguish *E. bacgiangensis* from *E. candollei* include the presence of the epicalyx after flowers at anthesis and densely fringed epicalyx in *E. bacgiangensis* (vs. absence of epicalyx after flowers at anthesis and sparsely fringed epicalyx in *E. candollei*).

The shape of the epicalyx lobe can be used to distinguish *E. bacgiangensis* from *E. wallichii* (linear vs. ovate in *E. wallichii*). Therefore, the characteristics of the epicalyx are very important for the identification of *E. bacgiangensis*. In addition, the other differences in characteristics of the two species are: leaf blade (not thickly papery in *E. bacgiangensis* vs. thickly papery in *E. wallichii*); length of inflorescences (13.0–18.0 cm in *E. bacgiangensis* vs. ≤ 6.0 cm in *E. wallichii*); shape of flower bud (lanceolate in *E. bacgiangensis* vs. globular in *E. wallichii*); fruit apex (round in *E. bacgiangensis* vs. apex shortly beaked in *E. wallichii*).

Table 1. Morphological comparison of *E. bacgiangensis* with similar species.

Characters	<i>E. bacgiangensis</i>	<i>E. candollei</i>	<i>E. wallichii</i>
Habit	small tree up to 8 m tall	tree up to 20 m tall	trees up to 6 m tall
Shape of flower bud	lanceolate	lanceolate	globular
Epicalyx (absent/present) after flowers at anthesis	present	absent	present
Margins of epicalyx lobes	deeply, densely fringed	sparsely fringed	deeply fimbriate
Comparison between style and staminal tube	style significantly exceeds staminal tube length	style slightly longer than staminal tube	–
Fruit apex	round	pointed and beaked	apex shortly beaked
Length of fruit stalk (cm)	3.5–3.7	1.0–3.0	ca. 1.5

Key to three species *E. bacgiangensis*, *E. candollei* and *E. wallichii*

- 1 Inflorescences ≤ 6.0 cm long. Flower bud globular ***E. wallichii***
- Inflorescences ≥ 7.0 cm long. Flower bud lanceolate.....**2**
- 2 Pedicel 3.0–4.0 cm long. Epicalyx lobes sparsely fringed, epicalyx absent after anthesis. Width of ovary 0.2–0.3 cm long, style slightly longer than staminal tube. Apex of fruit pointed and beaked, fruit stalk 1.0–3.0 cm long.....***E. candollei***
- Pedicel 1.4–2.3 cm long. Epicalyx lobes densely fringed, epicalyx present after anthesis. Width of ovary 0.5–0.6 cm long, style much longer than the staminal tube. Apex of fruit round, fruit stalk 3.5–3.7 cm long
.....***E. bacgiangensis***

Additional specimens examined

E. candollei: VIETNAM. Lang Son: Lang Met, 4/7/1944, Petelot, Petelot 6899 (VNM); Ninh Binh: Cuc Phuong, N.M Cuong, NMC 139 (HN); Thanh Hoa, 1921, Poilane, Poilane 1611 (VNM); Kon Tum: Sa Thay, Sa Son, 4/5/2009, T.T. Bach, V.T Chinh, D.V. Hai, B.H. Quang, VK 2630 (HN, KRIB); Dak Lak: Buon Ma Thuot, 17/1/1956, Pierre, Pierre 133 (VNM). LAOS: Xiangkhouang, 6/4/1949, Vidal, s.n. (VNM).

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Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statement

No ethical statement was reported.

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Author contributions

Van Tien Tran: Identification, description, key establishing and manuscript writing. Ha Phuong Vu, Hoang Tuan Cao: Study on specimens at VNM herbarium and related references. The Bach Tran: Investigation, study on specimens at HN and KRIB Herbaria. Thu Ha Bui: description, key establishing and manuscript correction.

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Data availability

All of the data that support the findings of this study are available in the main text.

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